

SEMICONDUCTOR RESISTANCE ELEMENT AND ITS MANUFACTURING METHOD

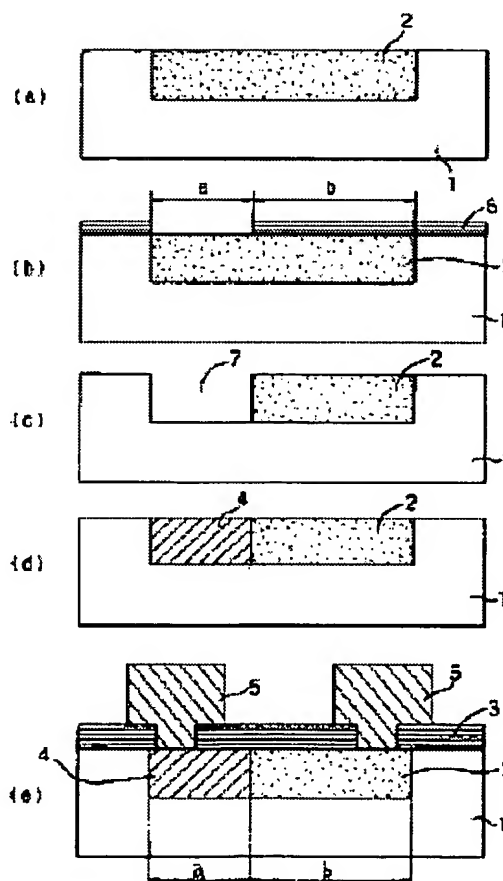
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Abstract of JP8330514

PURPOSE: To reduce the change in residue due to the ambient temperature change of a semiconductor resistance element over a wide temperature range by providing a polycrystalline silicon resistor with a negative temperature coefficient being connected to a single-crystalline diffusion resistor in series.

CONSTITUTION: The ratio of a length (a) of a polycrystalline silicon resistance region 4 to a length (b) of a P-type diffusion resistance region 2 is set to $a:b=tb:ta$ (ta : the temperature coefficient of a polycrystalline silicon resistor A which is constituted of the polycrystalline silicon resistance region 4, tb : the temperature coefficient of a P-type diffusion resistor B which is constituted of the P-type diffusion residue region 2). Then, the amount of change in the resistance of the P-type diffusion resistor B and that of the resistance of the polycrystalline silicon resistor A nearly cancel each other due to the change in ambient temperature, thus reducing the temperature coefficient of the semiconductor residue element and hence reducing the change in the resistance value.



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